

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-018588**Date Inspected:** 10-Dec-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 900**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Jobsite**CWI Name:** See below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** SAS OBG**Summary of Items Observed:**

On this date CALTRANS OSM Quality Assurance Inspector (QAI) Bert Madison was present at Yerba Buena Island in California between the times noted above for observations relative to the work being performed by American Bridge/Fluor Enterprises (AB/F) personnel at the locations noted below.

- 1). OBG Field Welding of Lifting Rod Access Penetration Inserts. (SMAW R-1 Repairs)
- 2). OBG East Line Access Penetration Insert Splice at 8E PP61.5 E2 SW. (SMAW)
- 3). Longitudinal Stiffeners (A-LS) Splice at OBG Field Splice 8E/9E. (SMAW)
- 4). Longitudinal Stiffeners (A-LS) Splice at OBG Field Splice 7E/8E. (SMAW R-2 Repairs)
- 5). OBG Field Splice 8E/9E Weld ID: C1, Face A (FCAW-G)
- 6). West Line Lifting Rod Access Penetration Insert Welds (QA verification)
- 7). OBG Field Splice 5E/6E Weld ID ALS 2 through 6. (QA verification)
- 8). OBG Field Splice 7E/8E Weld ID: B1, Face B – (SMAW)

- 1). OBG Field Welding of East Line Lifting Rod Access Penetration Inserts (SMAW)

Interior: OBG 4E PP25 E3 weld 1 (R-1 repairs)

The QAI periodically observed AB/F approved welder Earl Espinoza (ID 5824) performing welding and grinding of two R-1 repair excavations at OBG 4E PP22 E3 weld 1. The QAI periodically observed welding of fill and cover passes per the Shielded Metal Arc Welding (SMAW) process in the 4G (overhead) position. QC Inspector Pat Swain was periodically present to monitor the progress and verify that the welding parameters were within the limits established by the approved welding Procedure Specification (WPS) identified as ABF-WPS-D1.5-1001 Repair. Welding was completed and the QAI observed that the work at this location appeared to be in general compliance with contract documents.

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Interior: OBG 4E PP25 E3 weld 4 (R-1 repair)

The QAI periodically observed AB/F approved welder Earl Espinoza (ID 5824) performing air carbon arc gouging and grinding of one R-1 repair excavated areas at OBG 4E PP22 E3 weld 4. The QAI periodically observed welding of fill and cover passes per the Shielded Metal Arc Welding (SMAW) process in the 4G (overhead) position. QC Inspector Pat Swain was periodically present to monitor the progress and verify that the welding parameters were within the limits established by the approved welding Procedure Specification (WPS) identified as ABF-WPS-D1.5-1001 Repair. Welding was completed and the QAI observed that the work at this location appeared to be in general compliance with contract documents.

2). OBG East Line Access Penetration Insert Splice at 8E PP61.5 E2 SW

The QAI periodically observed AB/F approved welder Wai Kitlai (ID 2953) performing back welding of fill and cover passes per the Shielded Metal Arc Welding (SMAW) process in the 4G (overhead) position on the interior of the OBG East Line Access Penetration Insert Splice at 8E PP61.5 E2 SW. See photo below. QC Inspector John Pagliero was present to monitor the progress and verify that the welding parameters were within the limits established by the approved welding Procedure Specification (WPS) identified as ABF-WPS-D1.5-1010 rev 1. Cover pass welding was in process and the QAI observed the work at this location appeared to be in general compliance with contract documents.

3). Longitudinal Stiffeners (A-LS) Splice at OBG Field Splice 8E/9E (SMAW)

The QAI periodically observed AB/F approved welder Xiao Jian Wan (ID 9677) performing welding of, fill and cover passes per the Shielded Metal Arc Welding (SMAW) process in the 3G (vertical) position of OBG Field Splice at A-LS-4 at OBG Field Splice 8E/9E. QC Inspector John Pagliero was present periodically to monitor the progress and verify that the welding parameters were within the limits established by the approved welding Procedure Specification (WPS) identified as ABF-WPS-D1.5-1012-3. The welding was completed on the South face and flush grinding was in process. The QAI observed that the work at this location appeared to be in general compliance with contract documents.

4). Longitudinal Stiffeners (A-LS) Splice at OBG Field Splice 7E/8E (SMAW R-2 Repair)

The QAI periodically observed AB/F approved welder Hua Qiang Hwang (ID 2930) performing R-2 repair welding per the Shielded Metal Arc Welding (SMAW) process in the 3G (vertical) position on A-LS-4 at OBG Field Splice 7E/8E. QC Inspector John Pagliero was present to monitor the progress and verify that the welding parameters were within the limits established by the approved welding Procedure Specification (WPS) identified as ABF-WPS-D1.5-1002 Repair. The welding of one excavation in the South face was completed at A-LS-4 and the QAI observed that the work at this location appeared to be in general compliance with contract documents. The excavated area was at the following Y location with the following dimensions:

A-LS-4 (R-2) Excavation #1 - Y = 90mm, Length = 50mm, and Depth = 21mm.

5). OBG Field Splice 8E/9E Weld ID: C1, Face A (FCAW-G)

The QAI periodically observed AB/F approved welder Song Tao Huang (ID 3794) assisted by AB/F approved welder Jin Quan Huang (ID 9340) performing welding of OBG Field Splice 8E/9E Weld ID: C1 per the Flux Cored Arc Welding (FCAW-G) process in the 3G (vertical) position. See photo below. The QAI observed QC Inspector John Paglieri was present to monitor the progress and verify that the welding parameters were within the limits established by the approved welding Procedure Specification (WPS) identified as ABF-WPS-D1.5-3042B-1. The QAI observed as Mr. Paglieri obtained the following parameters: Amps = 235, Volts = 22 and the Travel Speed was measured as 250mm/min, and the calculated heat input was 1.24 kJ/mm. The welding of fill passes was in process and the QAI observed that the work appeared to be in general compliance with contract documents.

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6). West Line Lifting Rod Access Penetration Insert Welds (QA verification)

The QAI performed verification Ultrasonic Testing (UT) of 25% of the lengths of OBG Field Welds of Lifting Rod Access Penetration Insert Welds at the following locations:

1W PP8.5-W3-Welds 1 & 2 and 1W PP8.5-W4-Welds 1 & 2

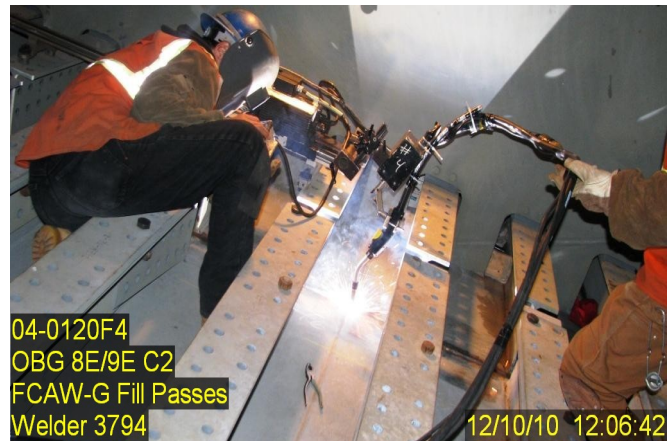
The OBG Field Welds verified by the QAI at this location appeared to be in general compliance with contract documents. See Ultrasonic Testing Report Form TL-6027 generated by the QAI on this date.

7). OBG Field Splice 5E/6E Weld ID ALS 2 through 6. (QA verification)

The QAI performed verification Ultrasonic Testing (UT) of 100% of the lengths of OBG Field Splice 5E/6E Weld ID ALS 2 through 6. The OBG Field Splices verified by the QAI at this location appeared to be in general compliance with contract documents. See Ultrasonic Testing Report Form TL-6027 generated by the QAI on this date.

8). OBG Field Splice 7E/8E Weld ID: B1, Face B – (SMAW)

The QAI periodically observed AB/F approved welder Fred Kaddu (ID 2188) performing back grinding and later welding per the Shielded Metal Arc Welding (SMAW) process in the 3G (vertical) position of the back ground groove in the B face (interior) of OBG Field Splice 7E/8E Weld ID: B1. QC Inspector Jesse Cayabyab was periodically present to monitor the progress and verify that the welding parameters were within the limits established by the approved welding Procedure Specification (WPS) identified as ABF-WPS-D1.5-1040B rev. 1. The QAI observed that welding was in process during the shift and work at this location appeared to be in general compliance with contract documents.



### Summary of Conversations:

Conversations on this date with Quality Control Inspectors were general in nature and pertained to locations of welding and QC activities and locations of welds released to the QAI for verification testing.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Nina Choy (510) 385 5910, who represents the Office of Structural Materials for your project.

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**Inspected By:** Madison,Bert

Quality Assurance Inspector

**Reviewed By:** Levell,Bill

QA Reviewer